Entergy Nuclear Operations, Inc.
Palisades Nuclear Plant
27780 Blue Star Memorial Highway
Covert, MI 49043
Tel 269 764 2000

Anthony J. Vitale
Site Vice President

PNP 2011-072

November 10, 2011

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

SUBJECT: Licensee Event Report 2011-006, Valve Packing Failure Resulted in Reactor Trip and Auxiliary Feedwater System Actuation
Palisades Nuclear Plant
Docket 50-255
License No. DPR-20

REFERENCES: 10 CFR 50.73

Dear Sir or Madam:

Licensee Event Report (LER) 2011-006 is enclosed. The LER describes a valve packing failure that resulted in actuation of the reactor protection system and the auxiliary feedwater system. The occurrence is reportable in accordance with 10 CFR 50.73(a)(2)(iv)(A).

This letter contains no new commitments and no revisions to existing commitments.

Sincerely,

AJV/tad

Attachment: LER 2011-006, Valve Packing Failure Resulted in Reactor Trip and Auxiliary Feedwater System Actuation

CC Administrator, Region III, USNRC
Project Manager, Palisades, USNRC
Resident Inspector, Palisades, USNRC

ATTACHMENT

LER 2011-006

VALVE PACKING FAILURE RESULTED IN REACTOR TRIP AND AUXILIARY FEEDWATER SYSTEM ACTUATION

2 Pages Follow

NRC FORM 366
U.S. NUCLEAR REGULATORY COMMISSION
(10-2010)

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

APPROVED BY OMB NO. 3150-0104 EXPIRES 10/31/2013

Estimated burden per response to comply with this mandatory information collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to bjs1@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202 (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

1. FACILITY NAME	2. DOCKET NUMBER	3. PAGE
PALISADES NUCLEAR PLANT	05000255	1 OF 2

4. TITLE

Valve Packing Failure Resulted in Reactor Trip and Auxiliary Feedwater System Actuation

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
09	16	2011	2011	- 006	- 00	11	10	2011	FACILITY NAME	DOCKET NUMBER

9. OPERATING MODE

1

10. POWER LEVEL

100

11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)

☐ 20.2201(b)	☐ 20.2203(a)(3)(i)	☐ 50.73(a)(2)(i)(C)	☐ 50.73(a)(2)(vii)
☐ 20.2201(d)	☐ 20.2203(a)(3)(ii)	☐ 50.73(a)(2)(ii)(A)	☐ 50.73(a)(2)(viii)(A)
☐ 20.2203(a)(1)	☐ 20.2203(a)(4)	☐ 50.73(a)(2)(ii)(B)	☐ 50.73(a)(2)(viii)(B)
☐ 20.2203(a)(2)(i)	☐ 50.36(c)(1)(i)(A)	☐ 50.73(a)(2)(iii)	☐ 50.73(a)(2)(ix)(A)
☐ 20.2203(a)(2)(ii)	☐ 50.36(c)(1)(ii)(A)	☒ 50.73(a)(2)(iv)(A)	☐ 50.73(a)(2)(x)
☐ 20.2203(a)(2)(iii)	☐ 50.36(c)(2)	☐ 50.73(a)(2)(v)(A)	☐ 73.71(a)(4)
☐ 20.2203(a)(2)(iv)	☐ 50.46(a)(3)(ii)	☐ 50.73(a)(2)(v)(B)	☐ 73.71(a)(5)
☐ 20.2203(a)(2)(v)	☐ 50.73(a)(2)(i)(A)	☐ 50.73(a)(2)(v)(C)	☐ OTHER Specify in Abstract below or in NRC Form 366A
☐ 20.2203(a)(2)(vi)	☐ 50.73(a)(2)(i)(B)	☐ 50.73(a)(2)(v)(D)	

12. LICENSEE CONTACT FOR THIS LER

FACILITY NAME	TELEPHONE NUMBER (Include Area Code)
Terry Davis	(269) 764-2117

13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX
B	AB	PCV	B295	N					

14. SUPPLEMENTAL REPORT EXPECTED

☐ YES (If yes, complete 15. EXPECTED SUBMISSION DATE) ☒ NO

15. EXPECTED SUBMISSION DATE	MONTH	DAY	YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

On September 16, 2011, at 1402 hours, with the plant in Mode 1 at 100% power, primary coolant system (PCS) unidentified leakage increased to greater than one gallon per minute (gpm) for greater than four hours, and was unable to be reduced to within Technical Specification (TS) limiting condition for operation (LCO) 3.4.13 limits. TS 3.4.13, Required Actions B.1 and B.2 were entered, which required the plant to be in Mode 3 in 6 hours and Mode 5 in 36 hours. Power reduction commenced at 12% per hour. Subsequently, leakage increased to greater than 10 gpm. The site entered an unusual event at 1450 hours. The reactor was manually tripped at 1454 hours, and an emergency notification was made in accordance with the Site Emergency Plan. As expected, the auxiliary feedwater system started automatically to recover steam generator level. The unusual event was exited at 1934 hours.

The cause of the increased leakage requiring the reactor trip is attributed to a failed packing on a pressurizer spray control valve. The valve was repaired and the reactor was returned to full service on September 21, 2011.

The event is reportable in accordance with 10 CFR 50.73(a)(2)(iv)(A) as an event that resulted in an actuation of both the reactor protection system and the auxiliary feedwater system.

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
PALISADES NUCLEAR PLANT	05000255	2011	- 006	- 00	2 OF 2

EVENT DESCRIPTION

On September 16, 2011, at 1402 hours, with the plant in Mode 1 at 100% power, primary coolant system (PCS) [AB] unidentified leakage increased to greater than one gallon per minute (gpm) for greater than four hours, and was unable to be reduced to within Technical Specification (TS) limiting condition for operation (LCO) 3.4.13 limits. TS 3.4.13, Required Actions B.1 and B.2 were entered, which required the plant to be in Mode 3 in 6 hours and Mode 5 in 36 hours. Power reduction commenced at 12% per hour. Subsequently, leakage increased to greater than 10 gpm. The site entered an unusual event at 1450 hours. The reactor was manually tripped at 1454 hours, and an emergency notification was made in accordance with the Site Emergency Plan. As expected, the auxiliary feedwater system [BA] started automatically to recover steam generator [SG] level. The unusual event was exited at 1934 hours.

There were no inoperable structures, systems, or components at the start of this event that contributed to the event.

The event is reportable in accordance with 10 CFR 50.73(a)(2)(iv)(A) as an event that resulted in an actuation of both the reactor protection system and the auxiliary feedwater system.

CAUSE OF THE EVENT

The pressurizer spray system contains two 3-inch spray control valves (CV) [PCV], CV-1057 from PCS loop 1B, and CV-1059 from PCS loop 2A. The cause of the increased leakage, requiring the reactor trip, was due to failed packing on pressurizer spray control valve, CV-1057. The packing failure was attributed to the packing gland follower being inappropriately machined to a shorter length, packing end rings not being installed in the packing configuration and inadequate valve packing guidance documents.

CORRECTIVE ACTIONS TAKEN

CV-1057 and CV-1059 were repacked to a configuration that prevents extrusion of the packing material.

CORRECTIVE ACTIONS TO BE TAKEN

New original equipment manufactured (OEM) gland followers, for CV-1057 and CV-1059, will be procured and installed. Revision to the applicable guidance documents to require an evaluation prior to modifying the OEM parts in CV-1057 and/or CV-1059 and, to prescribe the appropriate packing configuration based on the type of packing used.

ASSESSMENT OF SAFETY CONSEQUENCES

No actual safety consequences resulted from this event. The pressurizer pressure control system continued to control pressure as designed. Potential safety consequences of this event are of low safety significance. The equipment necessary to safely shutdown the reactor and maintain safe shutdown conditions under normal and emergency circumstances remained intact and available.

PREVIOUS SIMILAR EVENTS

None